

SELECTED CHEMICAL AND PHYSICAL PROPERTIES OF MINERAL SPRING FROM LOCATIONS OF CENTRAL SPIŠ (HORNÁDSKA BASIN)

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Background: Water is an essential condition of life on earth. Mineral and medicinal properties of water has great medical, economic and social importance.

Material and methods: In our work we focused on the determination of selected physical properties (temperature) and chemical composition (pH, hardness, ammonia concentration) of mineral water springs St. Kríž, St. Ondrej on the Siva Brada and the source Deák in Baldovce, which are located in the eastern part of Hornádska basin.

To determine the characteristics we used a compact laboratory Aquamerck® 11151 for analysis of water by MERCK. On the sampling site was determined temperature from physical characteristics and pH from chemical indicators.

Results: The water temperature was lowest in Baldovce - spring Deák 11.4 °C, spring St. Kríž - 13.8 °C and spring St. Ondrej - 13.1 °C. pH values was measured from 6.8 to 6.9, so we can classified as a mineral water – acidulous water. The content of ammonia (NH_4^+) was the same in the source of St. Kríž and Ondrej (1.29 mg/ l) in the source of Deák in Baldovce - 0.32 mg/ l. Hardness value was in all the sources above 6.25 mmol/ l.

Conclusion: The Regional Public Health Authority in Poprad (Slovakia), the quality of mineral springs St. Kríž and Ondrej is unstable. This is reflected by higher occasional incidence of ammonium ions, and rarely by microbiological harm, it can be a result of poor care of clean environment of those springs, possibly due to human activity.